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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,730	01/17/2002	Brooks Edwards	9550-001-27	2580
23552	7590	06/19/2007	EXAMINER	
MERCHANT & GOULD PC P.O. BOX 2903 MINNEAPOLIS, MN 55402-0903			HAQ, SHAFIQUL	
		ART UNIT	PAPER NUMBER	
		1641		
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		06/19/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/046,730	EDWARDS ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Shafiqul Haq	1641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 19 March 2007.
- 2a) This action is **FINAL**.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1,3,7-9,11-22,24-26,28-31 and 69-74 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 25,26,28-31 and 69-71 is/are allowed.
- 6) Claim(s) 1,3,7-9,11-22,24,72-74 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_
- 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

## DETAILED ACTION

1. Applicant's amendments and arguments filed March 19, 2007 is acknowledged and entered.
2. Claims 1, 3, 7-9, 11-22, 24-26, 28-31 and 69-74 are pending and are under active prosecution.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 72-74 are again rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no written description in the specification to support the configuration of claim 72, namely the configuration wherein the immobilized probes are "attached to a first surface" while the "chemiluminescent quantum yield enhancing material" is present "on a second surface of the support opposite the first surface of the support". Applicants cite page 22, lines 5-14 of the specification as support for this limitation {Remarks, page 16}. However, this section of the specification describes the enhanced migration of the dioxetane anion through the support structure in the presence of the enhancer but says nothing about the positioning of the enhancers and probes relative to each

other and the surface. Similarly, none of the sections of the specification cited in the second paragraph of page 15 of the Remarks relates to the configuration described in claim 72. Applicants' cited Fig. 4, which illustrates a multi-layer adjacent support comprising a functional polymer layer 17 adjacent to a cationic microgel layer 19. Fig. 4 discloses probes 23 covalently bonded to cationic microgel layer 19 but however, the figure cannot be interpreted that the chemiluminescent quantum yield enhancing material is on a second surface of a support opposite the first surface of the support.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3, 7-9, 11-22 and 24 are again rejected under 35 U.S.C. 103(a) as being obvious over a) each of Bronstein et al {US 5,849,495} and Bronstein et al {US 5,336,596} taken in combination with b) each of Matson et al {US 5,981,185} or Anderson et al {US 2001/0012537 A1}.

Bronstein et al {US 5,849,495} and Bronstein et al {US 5,336,596} are applied for the reasons set forth in paragraphs 12)and 13) respectively of the May 03, 2004 Office action.

Matson et al and Anderson et al are each applied to establish that two dimensional microarrays composed of discrete areas (or "spatially defined regions") containing analytical reagents are well known for use in biological ligand binding assays. See Matson et al: col. 3, lines 39-41; col. 6, lines 16-21; Anderson et al: paragraphs [0146] and [0011].

Given the fact that 1) quaternary onium polymers are well known chemiluminescence-enhancing agents which are used as coatings on solid supports used in biological assays {Bronstein et al '495 and Bronstein et al '596} and given the fact that 2) the use of the microarray format composed of solid supports containing reagents in discrete areas (or "spatially defined regions") is well known in the biological assay art {Matson et al and Anderson et al}, it is considered to be a routine modification which is well within the skill of the art and therefore obvious to modify the Bronstein et al supports to contain the assay reagents in microarray format, as claimed.

The features of the dependent claims are either specifically described by the references or constitute obvious variations in parameters which are routinely modified in the art and which have not been described as critical to the practice of the invention. For example, for the nucleic acid and protein probes of claims 7 and 8, see Bronstein et al. {'495}, col. 7, lines 33-37; for the enhancer of claim 3, see Bronstein et al {'495}, formula (I) of col. 10 wherein each of R1, R2 and R3 is "a straight or branched chain unsubstituted alkyl having from 1 to 20 carbon atoms".

Applicants' arguments filed March 19, 2007 have been fully considered but they are not persuasive for the same reason of record described in office action of 12/19/06 which is described as above.

***Allowable Subject Matter***

7. In view of terminal disclaimer filed 3/19/07, claims 25-26, 28-31 and 69-71 are allowable.

***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shafiqul Haq whose telephone number is 571-272-6103. The examiner can normally be reached on 7:30AM-4:00PM.

Art Unit: 1641

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long V. Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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EXAMINER  
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